



EdData II

Research on Reading in Morocco: Analysis of the National Education Curriculum and Textbooks

Final Report – Component 1

Part 2 (Textbook Analysis, Part A)

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Research on Reading in Morocco:

Analysis of the National Education Curriculum and Textbooks

Final Report – Component 1, Part 2 (Textbook Analysis, Part A)

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Preface

This report should be read in conjunction with Part 1 – Curriculum Analysis. Please refer to that report for background information, acknowledgements, and the introduction to this report. The following excerpt covers only the section of Part I that concerns the background and methodology of the textbook analysis, for ease of reference.

Textbook analysis. This analysis is based on a set of criteria designed to answer the following research questions:

- Do the textbooks reflect the evolution in academic research related to reading instruction?
- Is reading being taught explicitly or implicitly in the pedagogical guide and the textbook?
- What are the criteria that may improve the quality of the Arabic language textbook in primary education?

These questions are further guided by the answers to more specific questions, such as:

- What are the general characteristics of a good reading textbook and the quality control criteria they should meet (and subsequently, the criteria used to assess and analyze the textbook)?
- Is improving the quality of the textbook enough to make the student acquire the tools of reading—and make the student an independent reader?
- Is it possible to improve reading competency in the absence of strong initial teacher training in this regard?

With this in mind, the textbook analysis represents the practical application of the pedagogical curriculum and the basis for the content to be taught. The textbook is a key tool for enabling children to acquire the objectives of the Arabic language curriculum.¹ For this reason, the analysis of the textbooks is a first step towards being able to improve them as a teaching and learning tool.

Methodology - Scope. The present study is limited to analyzing the Pedagogical Guidelines; the textbook specifications and the first unit of the select, available textbooks; and the teacher's guide of the first three years of primary school, adopted by the Ministry of National Education and Vocational Training (MNEFP) in Morocco since 2002. **Table 1**, below, shows which of all textbooks were available on the market and which were consequently selected for analysis.

¹ Daawuud Darwiiš Halas. (2007).

Table 1: Availability of textbooks

	<i>al mufiid fii lluġa lcarabiyya</i> (1)	<i>muršidi fii lluġa lcarabiyya</i> (2)	<i>fii riHaab lluġa lcarabiyya</i> (3)	<i>kitaabii ii lluġa lcarabiyya</i> (4)
Grade 1	Yes	No	No	Yes
Grade 2	No	Yes	Yes	Yes
Grade 3	Yes	Yes	No	No

From now on referred to as: (1) al mufiid, (2) murchidi, (3) fii riHaab, (4) kitaabii.

The research team, made up of teachers and researchers from Al Akhawayn University in Ifrane (AUI), an expert from RTI International, and inspectors and Arabic language teachers from public and private institutions in the region of Meknès-Tafilalet, looked at the above texts and extracted the vocabulary, sentences, and paragraphs for analysis. This study was conducted in two stages: at first, the focus was on identifying the type and nature of the words, then extracting sentences and paragraphs in the texts. In the second stage, the focus was on the content of texts, reading comprehension, and assessment.

Methodology – process. The team established a methodological framework covering the objectives, instruments, and procedures for the study, which was submitted to the MNEFP Department of Curricula, and validated through discussion and feedback on their part. The study took place between May 19 and June 12, 2014. A training workshop was held from May 24 to 29 at AUI, in which experts introduced concepts of reading and evidence-based practices in reading instruction, presented and discussed the framework of the study and the methodology of the analysis, and explained to participants how to use the suggested analytical tools. The participants were given practical, hands-on training on the analytical process using samples of text. They were divided into groups in so that every group was responsible for analyzing the textbooks of a given school level, presenting and analyzing data and writing a report about the results of the study.

The first unit of the textbook available was analyzed according to a set of general themes, including:

- Distribution of objectives in accordance with Bloom’s cognitive taxonomy (recall – understanding – application – analysis – composition – assessment)
- Formulation of objectives in a procedural way (specific – measurable – attainable – realistic – timely)
- Focus of objectives on developing language as a competence (reading – writing – listening – speaking)

More specifically, the page-by-page review collected detailed information on the following elements of the content:

- **Text readability.** Includes the sentence, style, composition, and nature of the text presented to the student: scientific, literary, narrative, theatrical, or philosophical; the

number of paragraphs in the lesson; the way in which they are divided; and the scientific terms and the values in the lesson

- **Assessment.** Presence of methods for learner assessment
- **Aesthetics:** Includes the drawings, illustrations, font and size, page layout/text density, clarity of colors, print and paper quality.

Study tools. Instruments used for the quantitative analysis of the textbook were designed to capture the extent to which the different components of reading are explicitly present. They were adapted from instruments previously validated during a similar study conducted by RTI in Egypt. The analytical tools covered the following.

- Vocabulary
- Phonemic awareness
- Fluency
- Reading comprehension (according to text type)
- Sentence and grammar analysis tool
- Text book characteristics tool
- Gender analysis

2. Textbook Analysis

2.1 Phonemic awareness

Phonemic awareness allows the learner to perceive words pronounced as small units of sound, not as a single unit of sound. This awareness includes the ability to listen and learn to play with sounds.

Scientific research shows that phonemic awareness as a mental and linguistic capacity develops even before children have been exposed to print. This pre-awareness subsequently helps to make the association between the letters of the alphabet and their sound in a given language, as learning the letters of the alphabet necessarily involves learning their sounds. Activities that can help strengthen phonemic awareness are:

- awareness of rhyming words (saal / qaal, jibaal / jimaal, etc.);
- division of words into syllables (mu / cal / li / ma / tun til / mii / Djun);
- division of words into sounds (kitaab = k + i + t + a + b); and
- removal or substitution of sounds to form new words (replace the sound [s] by [j] in saamic for jaamic).

These activities are part of direct and explicit instruction of the relationship between sounds and their symbols, and will help children acquire reading fluency more rapidly.²

Activities related to phonemic and phonological awareness, e.g., sound recognition, syllable segmentation, manipulation of sounds, rhyme, etc., are absent in the textbooks for the first year.

2.2 Alphabetic principle

The alphabetic principle is the relationship between the sound and the symbol, or the written letter. How do the Moroccan textbooks address this fundamental component of learning to read?

Teaching the Arabic alphabet in the first grade

The Pedagogical Guide emphasizes teaching letters beginning with the easiest to pronounce and to write, and the most frequent, before moving on to those that are more difficult and less frequent.³ There is no objective basis given in the Guide indicating which letters are “easy” or “hard” to write and pronounce. However, studies exist to show

² Levin, I., Saiegh-Haddad, E., Hende, N., et Ziv, M. (2008). Early literacy in Arabic: An intervention study among Israeli Palestinian kindergartners. *Applied Psycholinguistics*, 29: 413-436.

³ See Part 1 of this report. RTI International (2015). *Research on reading in Morocco: Curriculum and textbook analysis (Component 1, Part 1)*. Prepared for USAID under EdData II.

that the most frequently used Arabic words begin with: 1. ألف [alif], 2. لام [laam], 3. نون [nuun], 4. ياء [yaa'], 5. واو [waaw], 6. هاء [haa'], 7. باء [baa']. (See *Annex 1*) Analysis of the grade 1 textbooks *Kitaabii* and *Al Mufiid* show that all of the letters are taught, and this is accomplished by the end of the 7th unit in the case of *Kitaabii*. Since the textbook specifications don't give any detail on the sequence to follow for introducing the letters, it is not surprising to find that each book does it differently, as in *Exhibit 1*, below.

Exhibit 1: Order of introduction of the letters of the Arabic alphabet, by Moroccan textbook

Book	Order of letters (from right to left)
<i>Kitaabii</i>	س [s], ت [t], ل [l], ب [b], ح [H], ر [r], م [m], ي [y], ش [š], ج [j], ف [f], ك [k], و [w], ق [q], ث [θ], خ [x], ه [h], ء ['], ع [c], غ [g], ن [n], ص [S], د [d], ذ [d̤], ط [T], ظ [Ḍ], ز [z], ض [D].
<i>Al Mufiid</i>	م [m], ك [k], ب [b], ت [t], ه [h], أ ['], ر [r], ل [l], د [d], ن [n], ي [y], ج [j], س [s], ف [f], ح [H], ز [z], ذ [d̤], ص [S], ق [q], ع [c], خ [x], ش [š], غ [g], ط [T], ض [D], ث [θ], و [w], ظ [Ḍ].

By way of comparison, *Exhibit 2* shows the order presented in other available Arabic textbooks.

Exhibit 2: Order of introduction of the letters of the alphabet, foreign textbooks

Country	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
Egypt	Oral preparation	1. أ ' . 2. ب b . 3. ت t . 4. ث θ . 5. ج j . 6. ح H . 7. خ x . 8. د d .	1. س s . 2. ش š . 3. ص S . 4. ض D . 5. ط T . 6. ظ Ḍ . 7. ع c . 8. غ ğ .	Texts				

Country	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
		9. ذ d 10. ر r 11. ز z	9. ف f 10. ق q 11. ك k 12. ل l 13. م m 14. ن n 15. ه h 16. و w 17. ي y					
Yémen								1. م 2. ب 3. ل 4. ن 5. ر 6. د 7. ت 8. ق 9. ف 10. ص 11. ح 12. 13. و 14. ج 15. ش 16. ط 17. ز 18. أ 19. ك 20. خ 21. ذ 22. ع 23. ض 24. ي 25. ه 26. ث 27. ظ 28. غ

Saiegh Haddad (2008)⁴ suggests that fricative sounds like:

θ, ث, j, ج, H, ح, x, خ, d, ذ, Z, ز, S, س, š, ش, ɣ, غ, f, ف, S, ص, D, ظ

may be pronounced independently, which is what differentiates them from other letters. This makes them difficult for children to pronounce; it also makes it more difficult for children to develop a phonemic awareness of the sounds of these letters. This is also evident in the nasal consonants: م m ن n, as well as liquids such as: ر l ل l.

On the basis of a neuro-linguistic study, Taha (2014) reports that the impact of letter connectivity on visual processing (visual load) is more noticeable for beginning readers than advanced ones. It recommends introducing in textbooks for beginning readers the words whose letters are not connected (ورود wuruudun “pink”) or are partially connected (نور nuurun “light”) before introducing more complex words, namely those whose letters are completely connected (عسل casulun “honey”).⁵

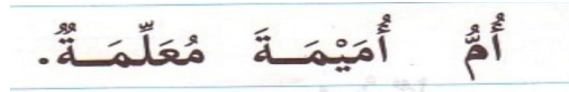
In the book *Al Mufiid* (Grade 1) we find that the lesson starts with reading a sentence composed of words that use the letter that is being taught; in this case, the target letter is mim (m). **Exhibit 3** provides an example.

⁴ Saiegh Haddad, E. (2008). The acquisition of basic skills in reading, writing: conception of examination. http://cms.education.gov.il/NR/rdonlyres/DCBE2E90-9535-4886-843F-51554F5D1067/150296/Mivdak_Kita_A_arab.pdf

صايغ حداد، اليانور (2008) مهارات أساسية في اكتساب القراءة والكتابة: التصور الفكري للفحص. متاح على

⁵ Taha, H. (2013). Reading and Spelling in Arabic: Linguistic and Orthographic Complexity. in *Theory and Practice in Language Studies*, Vol. 3, No. 5, pp. 721-727, Finland: Academy Publisher.

Exhibit 3: Example from the first lesson of Al Mufiid:



Transcription: 'umm 'umayma mucallimatun. Source: *Al Mufiid*, p. 5

Some remarks regarding the sentence:

- The sentence's three words contain the letter (m).
- The sentence focuses on words that contain the letter (m) at the end of the word (Um), two in the middle (*Oumaima*, *Mu'alima*), and at the beginning and the middle of the word (*Mu'alima*). The other exercises present words comprising the letter (m) in different positions.
- The letter (m) was vowelized with "a" three times (*fatha* —) and with "u" two times (*Damma* —.) The sentence did not contain a word where (m) is vowelized with "i" (*kasra* —).
- The text contains words with nuunation, or "tanwiin." Nuunation constitutes a challenge for pupils in both writing and pronunciation (*Mu'alimatun*).
- The next sentence in the lesson contains words that are difficult for the learner to decode in the first lesson, such as *Taskono*.
- The letter is not presented in its long-vowelized form. There is no obvious comparison between the letter's long-vowelized form and short-vowelized one.

Another example (**Exhibit 4**) comes from the textbook *Kitaabii*. The title of the section is "I build and I read," implying that the teacher and child should construct or assemble the text.

Exhibit 4: Extract from the first lesson of *Kitaabii*:

I build and I read

The target letter is: **S**

jalasat salmaa maca 'usratibaa 'ilaa lmaa'ida. 'akalat salmaa xubzan wa xubdatan, wa šaribat Haliiban.



Salma is seated at the table with her family. Salma ate bread and butter and drank milk.

Here we note the following:

- The target letter is (س) (s).
- The text contains 14 words, 4 of which comprise the letter (s).
- The letter (s) occurred twice at the beginning in (سَلْمَى Salma) and twice in the middle (جَلَسْتُ Jalasat and أُسْرَتِهَا Usратиha); although no word contained (s) at the end.
- The letter (s) occurred three times vowelized with short “a,” and the sign that represents the absence of a vowel (sukuun) once. The words did not present (s) vowelized with “u” and “i.”
- The text contains a sentence comprising the letter ش (ch). This may constitute a difficulty as this letter resembles س (s).

Furthermore, at the bottom of page 7, the text gives a list of isolated (out of context) words (*Exhibit 5*).

Exhibit 5: Continuation of the first lesson of *Kitaabii*:


مَدْرَسَة	سُترة	سِتار	أُسرة
سا حة	سو ر	غَسل	مَسَاكَة
مدرسة سـ	سترة سُـ	ستار سـ	مساکة مـ
ساحة سا	سور سو	سوار سو	مساکة مسـ
سوار سي	أسرة أُـ	استار سـ	مساکة مسـ
غسيل سي			

Exhibit 5 shows that:

- All of the words contain the letter “s.”
- The examples present the letter “s” in first position and in the middle.
- There are no words that contain the letter “s” at the end.
- There are words in which “s” is long-vowelized (*saaHa* ساحة, *suur* سور, *gasiil* غسيل).
- There is a word in which “s” has no vowel (Usra) and another word in which the letter “s” is stressed (ma’saka). Stress and lack of vowels constitute a challenge for the learner, especially in the first lesson of the book.
- These words have no relationship to the preceding text on the same page (the image presented in *Exhibit 3*, above).

On the next page, the textbook provides a sentence with four words, of which two have the target letter (*Exhibit 6*).

Exhibit 6: Continuation of the lesson for letter “s” in *Kitaabii*



أقرأ وأكتب

شربت سلمي كأس حليب .

شربت لمي كأس حليب .

I read and I write

šaribat salmaa ka'sa Haliib.

šaribat --- lmaa ka'--- Haliib.

Source: *Kitaabii*, page 8

Again, these examples have no connection with the story that started the lesson. It is difficult, from the words listed under the title “I read and I write” to establish links between the different components of the lesson. In other words, the lesson misses the

opportunity to use repetition as a key element of reinforcement and consolidation of linguistic concepts.

Together these examples provide a picture of how letters are taught. In addition to the above points, we notice the following:

- The letter “s” was not shown at the end of the word in the first and second letters, whereas the third sample gives the word (kaâs) which ends with “s.” In the activity “I read and I write,” learners are expected to be familiar with the letter “s” in all positions and ready to decode it through the reading exercise.
- The activity “I read and I write” did not target the competence of identifying the sound of the letter, distinguishing what is being heard, and developing the decoding competence.

Although we have highlighted only one example from one book, the other lessons follow a similar pattern, and this analysis allows us to conclude that the textbook alone is not adequate for efficiently teaching the Arabic alphabet to beginning readers. This does not mean that teachers aren’t doing other, more simplified, enrichment activities outside of what is in the textbook, or that children haven’t learned basic skills earlier (in preschool). However, it does raise questions about the likelihood that all students are getting an equitable chance to learn how to read through standardized, leveled materials.

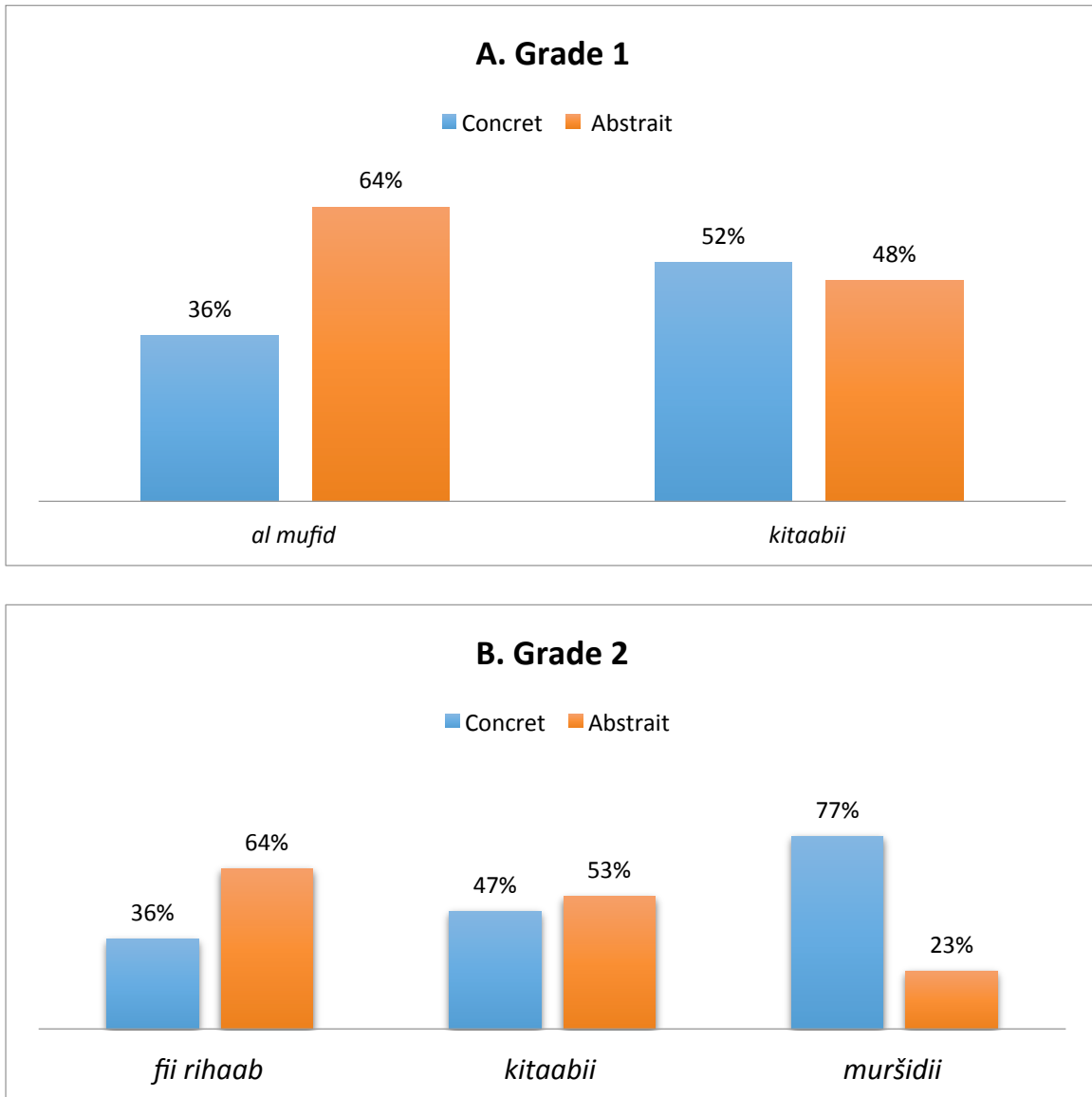
2.3 Vocabulary development

Concrete vs. abstract words.

In this study “concrete” refers to real, tangible objects and materials that are perceptible to the senses. Images, actual objects, and gestures can support learning concrete words, while the meaning of abstract words comes through experience and context. Use of concrete words is among best practices in vocabulary development, since children naturally have a repertoire of more concrete vocabulary than abstract,⁶ and presence of abstract ideas is associated with higher levels of reading texts. This study analyzed the proportion of concrete and abstract words used in stories and exercises of the textbooks. The results of the analysis for Grades 1 and 2 is shown in ***Exhibits 7A*** and ***7B***.

⁶ Fountas, I. C., & Pinnell, G. S. (2006). *Leveled books (k-8): Matching texts to readers for effective teaching*. Heinemann.

Exhibit 7: Proportion of abstract (*abstrait*) vs. concrete (*concret*) words in Grade 1 and Grade 2



The only edition with books in both Grade 1 and Grade 2 is *Kitaabii*. The analysis shows that the proportion of concrete words to abstract words is slightly higher in Grade 1, but by the first unit of Grade 2 *Kitaabii* has a total of 169 words, of which 106 are concrete (47%) and 90 are abstract (53%). An additional 80 words are prepositions and linking words that are classified as neither concrete nor abstract, such as:

مع with ، إلى ، at ، في ، in ، و ، and ، ف ، since ، منذ ، how ، متى ، when ، هكذا ، so ، يا ، oh

Exhibit 8 shows examples of concrete and abstract words.

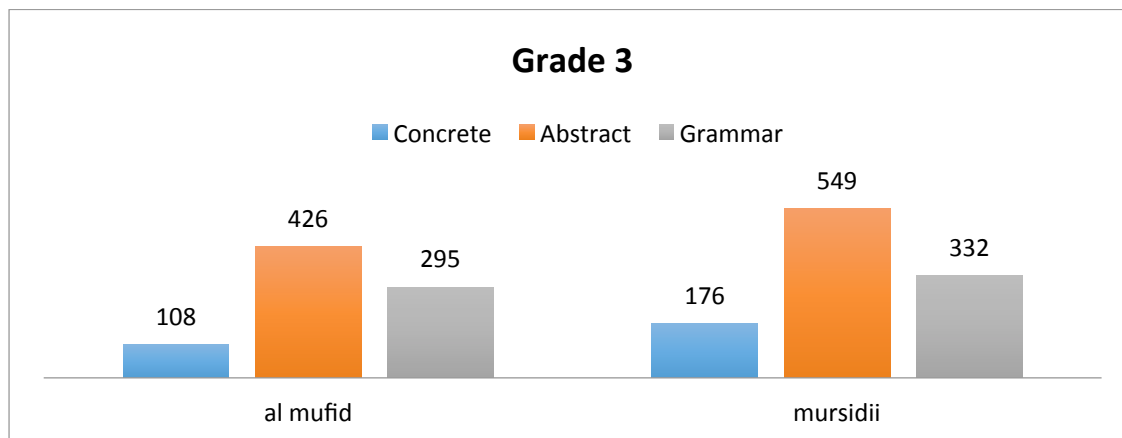
Exhibit 8: Examples of concrete and abstract words

Abstract words			
Page	Transcription	Word	Meaning
14	<i>Sadaaqaatii</i>	صداقتي	My friendships
9	<i>jamiila</i>	جميلة	Beautiful
14	<i>fariHat</i>	فرحت	happy
Concrete words			
6	<i>bint</i>	بنت	Girl
6	<i>Imadrasa</i>	المدرسة	School
9	<i>casal wa xubz</i>	عسل وخبز	Honey and bread

Source: Kitaabi

It is only in the textbook *Murchidi* that concrete words outnumber abstract words in Grade 2. In *Kitaabii* the proportions are almost equal, but there are many more abstract words in *Fii RiHaab* than in the other books.

By third grade, abstract words represent an even larger proportion of words in the text (*Exhibit 9*). In the Grade 3 textbook *Al Mufiid* there are 534 words (excluding connectors), of which 108 are concrete (20%), and 426 are abstract (80%). Connectors and prepositions (295 total) represent 36% of the total when added to the calculation.

Exhibit 9: Proportion concrete and abstract words in Grade 3 textbooks

If in the first grade *Al Mufiid* was already using more abstract words than concrete ones, by Grade 3 the level of difficulty has increased substantially, given the presence of a large proportion of abstract words, as shown in *Exhibit 9*.

Word frequency

Studies of the development of reading competence stress that the repetition of vocabulary in reading texts is necessary for learners to acquire fluency and understanding.⁷ The reoccurrence of a word in one text or in different texts allows learners to evolve from decoding to automatic recognition, and this increase in reading speed supports increased comprehension. In addition, the frequency of word repetition helps learners identify the word in different contexts, which allows them to make use of the word in different subject areas. Therefore this study also sought to determine to what extent the textbooks support vocabulary development through repetition.

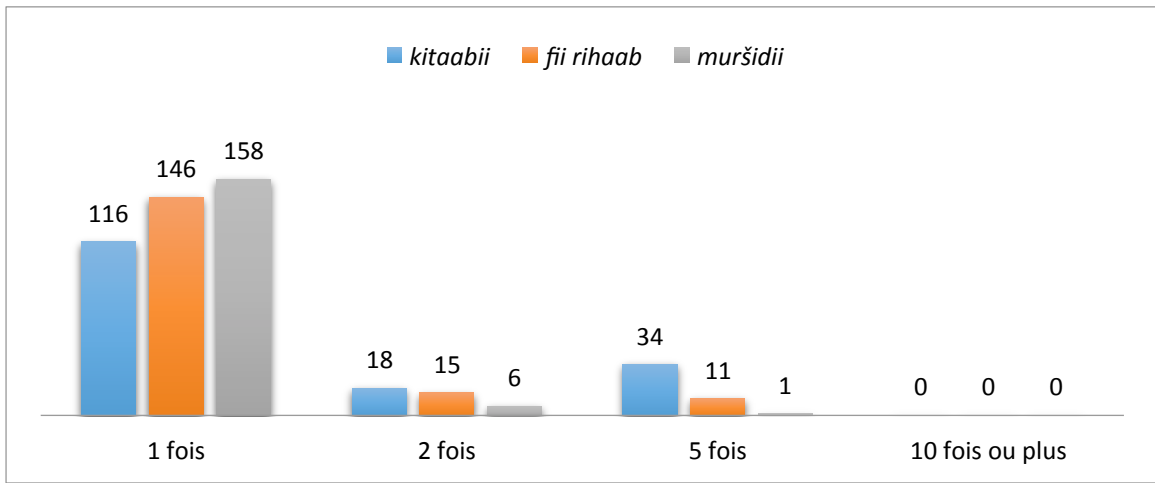
Grade 1. The analysis of the Grade 1 textbook revealed that word repetition is very low. For instance, in *Kitaabii*, out of 204 words, 91 words occurred only once (45%); 12 words occurred twice (6%). In *Al Muftid*, out of 195 words in the first unit, 79 words occurred only once (49%) and 13 occurred twice (7%).

These results reflect that Grade 1 students are overwhelmingly presented with more new words than familiar ones, and words are not reinforced through repetition in different contexts. Contrary to good educational practices, neither textbook adopted repetition as a strategy for building vocabulary and fluency. The proportion of words reoccurring more than 10 times did not exceed 2% in *Al Muftid*.

If we consider that Arabic is almost a second language for Grade 1 pupils (most of whom use an Arabic dialect or a version of Amazigh in the home), the development of oral language fluency and then of fluent reading requires increasing the repetition of new words used in reading texts.

Grade 2. As in Grade 1, the proportion of words that occurred only once is drastically higher than that of words that are repeated two or more times. The number of words that a learner sees only once in the first unit of Grade 2 is 116 for *Kitaabii*, 146 for *Fii RiHaab* and 158 in *Murchidi*. Words that occurred twice are as follows: 18 in *Kitaabii*; 15 in *Fii RiHaab* and 6 in *Murchidi*, and so forth, as shown in **Exhibit 10**.

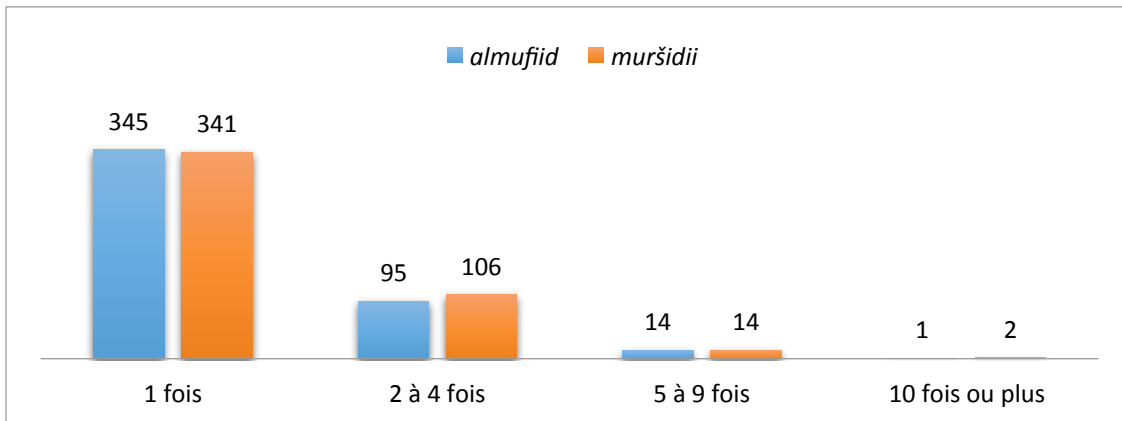
⁷ Fountas, I. C., & Pinnell, G. S. (2006). *Leveled books (k-8): Matching texts to readers for effective teaching*. Heinemann.

Exhibit 10: Frequency of word repetition in Grade 2

No words are repeated more than five times in any of the textbooks. This is far from an effective level of repetition according to research-based standards that suggest that contextual repetition (hearing or reading the same word in the same context) is important for learning new words, although the actual number of times a word needs to be repeated depends on many factors.⁸

Grade 3. After counting all the words of two units of *Murchidi* and *Al Muftid*, we again note the absence of a strategy for vocabulary repetition within texts and between texts within a unit (*Exhibit 11*). In *Murchidi* the total of words used in all functional, complementary, and poetic texts is 464, of which 341 (73%) occurred only once; 65 occurred twice, 24 occurred three times, and 17 occurred four times. The same applies to *Al Muftid*: of 455 words total, 345 (76%) occurred only once, 62 words occurred twice, 23 words occurred three times, and 10 words occurred four times.

⁸ Horst, J. S., Parsons, K. L., and Bryan, N. M. (2011a). Get the story straight: contextual repetition promotes word learning from storybooks. *Front. Psychol.* 2:17. doi: 10.3389/fpsyg.2011.00017

Exhibit 11: Frequency of word repetition in Grade 3

This study has shown that the Moroccan textbooks for the first three grades are far from adequate in meeting the needs of learners in the area of vocabulary development, including automatic recognition of high-frequency words. Students are faced with an abundance of text, most of which is composed of new words, before they have even become familiar with all letters of the alphabet. In this context, it is not surprising that students find themselves struggling with basic achievement, as evidenced by empirical studies in this sector (see Preface, Component 1 – Part 1). These challenges prevent students from pursuing learning and undermine the comprehension and assimilation of content that lead to achieving a school's fundamental objectives. The difficulties that children face in Arabic language at the secondary level, according to reports by teachers who participated in workshops to strengthen school achievement (2012–2013) include the following:

- Difficulty pronouncing certain letters when reading a paragraph of text
- Inability to distinguish between the *Hamza*, which is a radical (*hamzat qaTc*), and *alif*, which serves to support vowels at the beginning of a noun or adjective (*hamzat waSl*)
- Problems linking the form of the letter with its corresponding sound
- Difficulty reading long words
- Poor reading comprehension

These difficulties, as reported by teachers, can only be the result of an absence of effective strategy for teaching reading in the early grades. **Exhibit 12** presents some specifications for teaching vocabulary that are found in Egyptian textbooks, as an example.

Exhibit 12: Example specifications from Egyptian textbooks

Specifications for book production in the area of vocabulary:

Grade 1:

The textbook contains 250 new words with an average repetition rate of 12–15 times for each word.

The percentage of concrete words should be greater than the percentage of abstract words (ratio of 80% concrete to 20% abstract).

Grade 2:

The textbook should contain 350 new words, with an average repetition rate of 10–12 times per word.

The percentage of concrete words should be more than the percentage of abstract words (ratio of 70% concrete to 30% abstract).

Grade 3:

The book should include 400–500 new words, with an average repetition of 5 times per word, and reusing words from Grade 1 and Grade 2.

The percentage of concrete words should be more than the percentage of abstract words (ratio of 60% concrete to 40% abstract).

To conclude this section, it is clear that the ability of the Moroccan textbooks to support vocabulary development and fluency is extremely limited. As described in the previous sections related to alphabetic knowledge and phonemic awareness, teachers bear the responsibility for developing and delivering word recognition and fluency-building strategies outside of the textbooks. The content of the stories and exercises in textbooks appears to be primarily concerned with the thematic unit rather than with the characteristics of the language and the literacy development needs of the pupils. The textbooks miss the opportunity to strengthen both thematic and language development capacities through more deliberate presentation and sequencing of the language.

2.3 Fluency

Sentence length

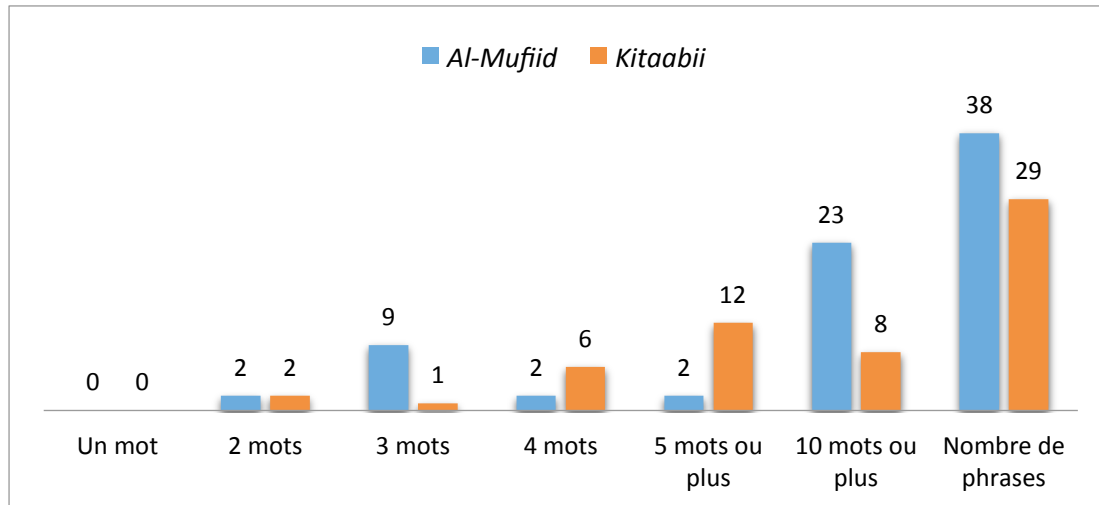
Studies in reading acquisition have confirmed that sentence length has an effect on reading skills development.⁹ Sentence length is one of the factors that increase complexity of sentence structure and can prevent the student from reading correctly and seizing the meaning of the sentence. The findings of the analysis of sentence length in each grade are presented in this section.

Grade 1. The following chart (*Exhibit 13*) shows that sentence length, even in Grade 1, is typically very long in the Moroccan textbooks. For example, out of 38 sentences in the

⁹ Fountas & Pinnell (2006)

first unit of *Al Mufiid*, 23 (60%) were longer than 10 words. Similarly, *Kitaabii* presents 8 out of 29 (28%) sentences that are longer than 10 words.

Exhibit 13: Number of words per sentence, Grade 1



Most texts have titles of two or three words. However, the number of simple sentences composed of three to four words—the kind that are more apt to help young learners acquire confident reading skills—remains relatively small compared to the proportion of sentences that are much longer.

The type of phrase is an indicator not only of the difficulty level of the reading text, but also of the difficulty in teaching the reading texts.

The following table (*Exhibit 14*) compares the average number of words in the two first grade textbooks with grade-level averages established for English and Arabic. According to this table, the average sentence length in the textbooks is more closely aligned to the norm, even if the distribution appears heavily biased towards lengthy sentences.

Exhibit 14: Comparison of sentence length norms by grade

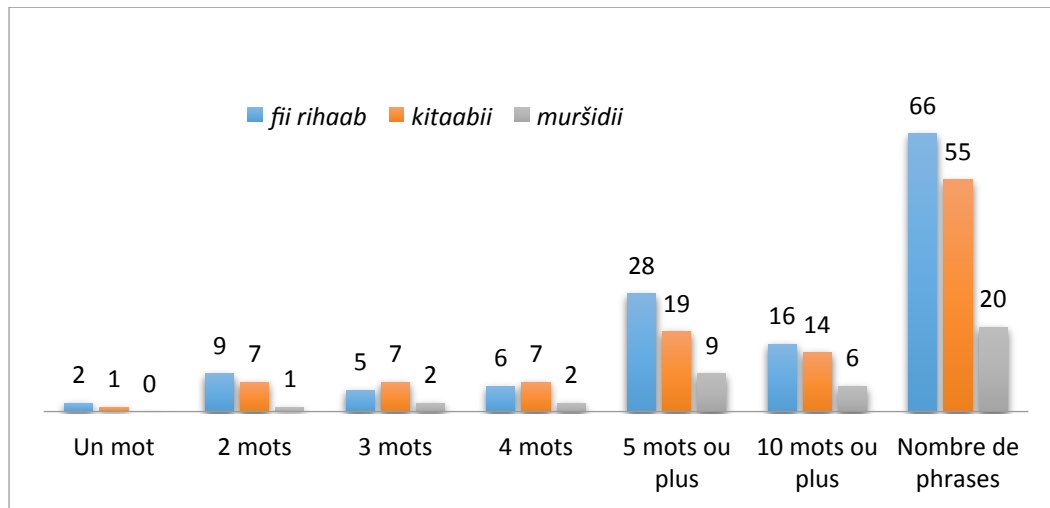
Grade level	Average sentence length by grade			
	<i>Al Mufiid</i>	<i>Kitaabii</i>	Reading A-Z (English)	Arabic readability indicator ¹⁰
Grade 1	7.6	5.8	7	6.5
Grade 2	6.7	4	16.5	8.4

¹⁰ Abdel-Karim Al-Tamimi, Manar Jaradat, Nuha Aljarrah, and Sahar Ghanim (2014). AARI: Automatic Arabic Readability Index. *International Arab Journal of Information Technology*, 11(4):370-378.

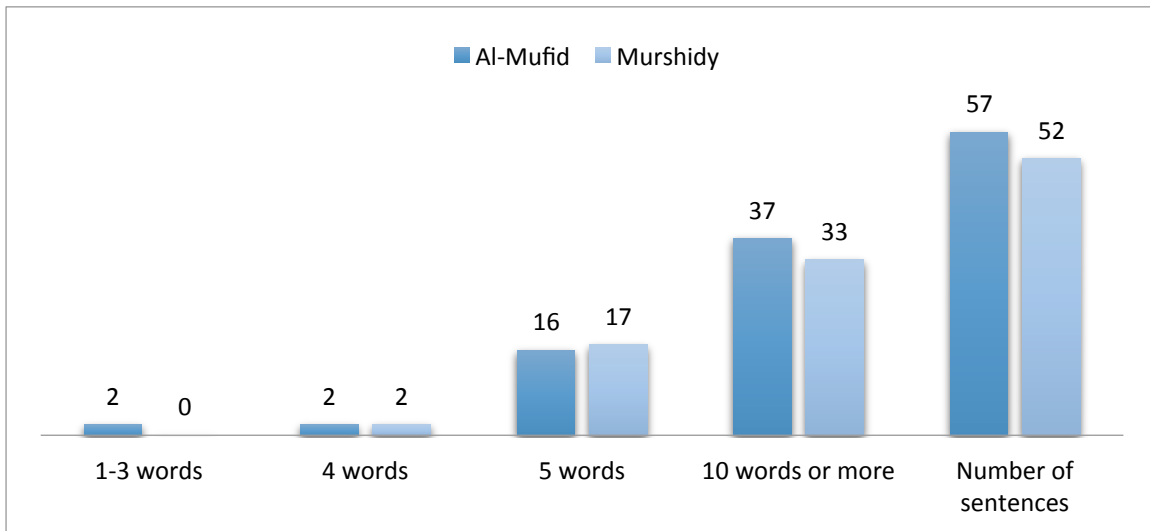
Note: Arabic readability indicator developed from a collection of texts used in the Jordanian curriculum.

Grade 2. The following graph (*Exhibit 15*) shows that the first unit of *Fii RiHaab* contains 66 sentences, of which 42% are sentences with between 5 and 9 words; 24% of *Fii RiHaab* sentences have 10 or more words. This leaves about a third of sentences in the category of 1 to 4 words in length. The second grade book, *Kitaabii*, has a slightly lower proportion of sentences in the range of 5 to 9 words (34%); 25% include 10 words or more, and 38% have between 2 and 5 words per phrase. Finally, in *Murchidi* we see that the text density (overall number of sentences in the unit) is much lower than in the other two books. In *Murchidi* 45% of sentences contain between 5 and 9 words, 35% of sentences have 10 or more words, and 25% of sentences contain between 2 and 4 words. (*Exhibit 15* includes the numbers. Refer also to *Exhibit 14* above for average words per sentence in each book and grade level).

Exhibit 15: Number of words per sentence in Grade 2 textbooks



Grade 3. Consistent with those of Grades 1 and 2, the Grade 3 textbooks use mainly sentences with 10 words or more. There are also far fewer sentences with fewer than 5 words, as shown in *Exhibit 16* below.

Exhibit 16: Number of words per sentence in Grade 3 textbooks***Simple and complex phrases***

The length of sentences is important, but equally informative is the sentence type and complexity (**Exhibit 17**). This analysis looked at sentence types (nominal and verbal sentences, indicative and declarative), on the one hand and the complexity (simple or compound) on the other hand.

Grade 1. The analysis noted that first year textbooks comprise from 5 to 8 sentences in each text and that verbal sentences (beginning with a verb) are the most common, with a proportion of 64% verb to 36% nominal sentences (beginning with a noun). See **Exhibit 18**. From unit to unit, the proportions vary and verbal sentences become abundant in reading texts.

At the level of simple and compound sentences, the analysis shows that the *Kitaabii* relies much on compound sentences, with a proportion of 59% compared to 41% for simple sentences.

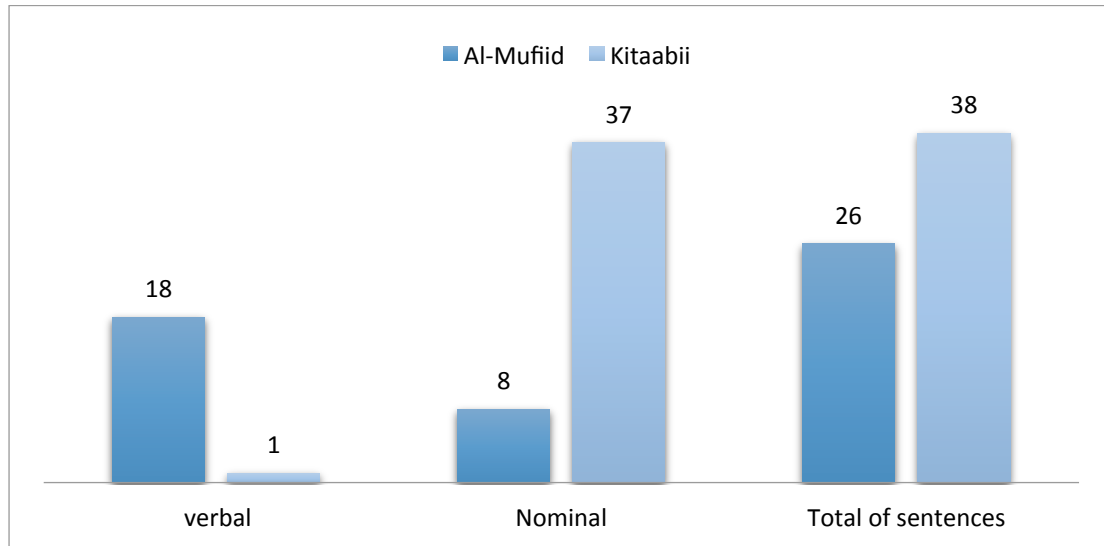
Exhibit 17: Example sentence types from the books

Type	Kitaabii	Al Mufid
Simple sentences	Salma was happy with Toutou bird's friendship	Oumaima arranges the pillows of the foyer
Compound sentences	Salma stood drying her hands with the towel and was surprised by her brother calling her: "Salma, Salma!"	[Not included in the first unit]

For beginning readers it is recommended to use short- to medium-length sentences and avoid long, compound ones. Texts with simple phrases are less frustrating and easier to understand. Compound sentences make the text more difficult for the novice reader.

Some research suggests the use of nominal sentences more than verbal ones in the texts intended for early age children, and emphasizes keeping the main parts of the sentences close to each other and avoiding use of subordinate clauses.

Exhibit 18: Number of noun and verb phrases



Considering the fact that sentence type and length help or hinder fluency and understanding in reading performance, it is notable that the majority of sentences in *Kitaabii* are long and complex, although there are more nominal phrases than verbal. *Al Mufiid* contains equivalent numbers of simple and complex (compound) phrases, but it has more verbal sentences than nominal. However, the number of compound sentences in this textbook is enough to create difficulties for reading learners.

Grade 2. The first unit of the books contained the following proportions:

- *Kitaabii* contains 55 sentences, 33 of which are compound and 22 are simple.
- *Murchidi* contains 22 sentences, 14 of which are compound and 7 are simple.
- In *Fii riHaab*, there are 62 sentences, 36 of which are compound and 26 are simple.

These numbers translate into the following percentages (see *Exhibit 19*).

Exhibit 19: Percentage of simple and complex sentences

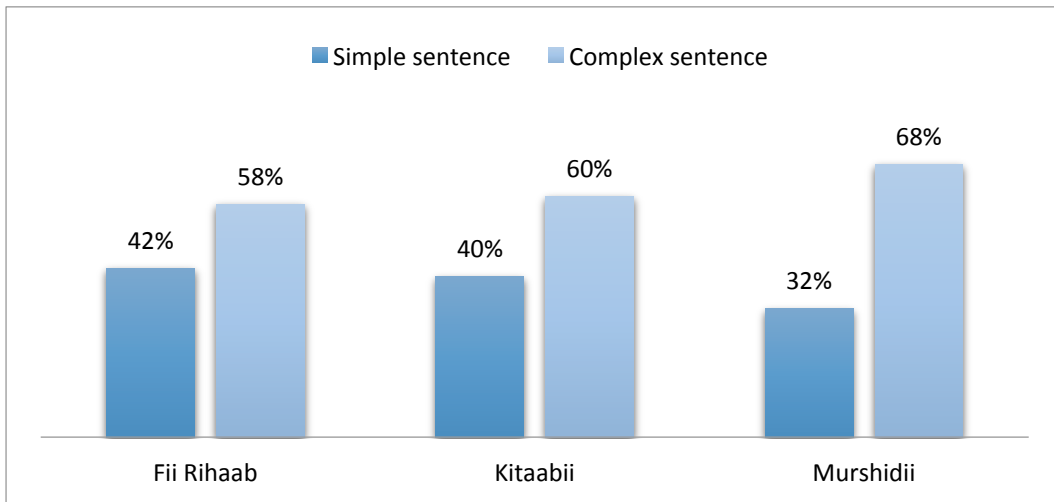


Exhibit 20 below provides examples of different types of phrases in the Grade 2 books.

Exhibit 20: Example sentence types from the books

<i>Kitaabii</i>				
Number of sentences	Sentence word length	Number	Examples	Page
92	More than 10 words	2	Adam revised his lessons, arranged his school tools, and started looking for his uncle's little house.	11
	More than 5 words	60	The family members started walking around the house.	6
	4 words	10	How do I arrange the house supplies?	6
	3 words	12	Is the address lost?	11
	2 words	7	The house's address	12
	One word	1	Oh!	11

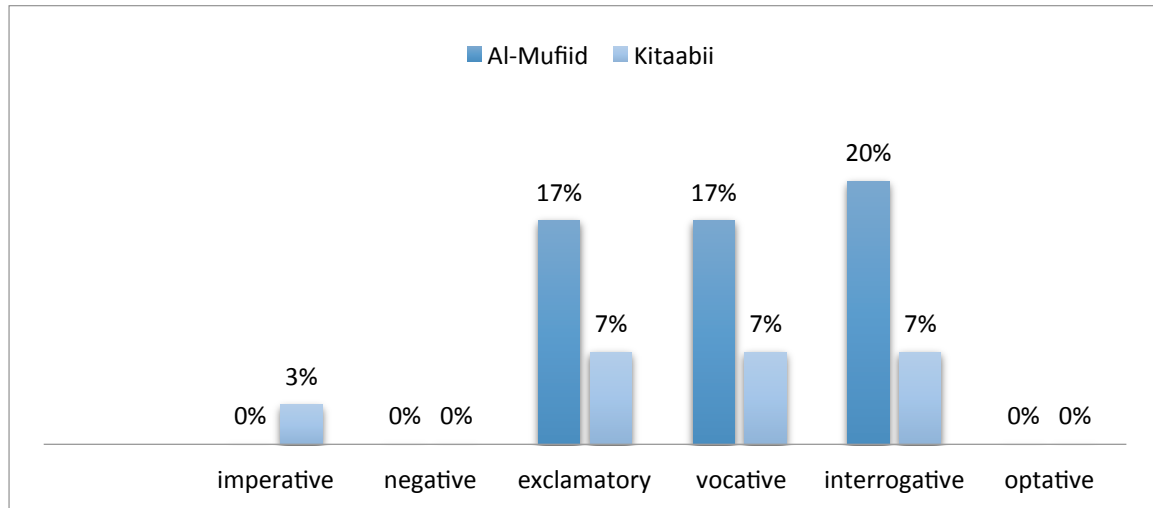
Murchidi				
Number of sentences	Sentence word length	Number	Examples	Page
22	More than 10 words	9	The Imam of the mosque prayed for me while entering the house with men who learn the Koran by heart.	10
	More than 5 words	9	I prepared soup, cheese, and eggs	6
	4 words	2	The Cheikh asked me: Where is the Koran?	10
	3 words	1	My family at night.	6
	2 words	1	My uncle's visit	14
	One word	0	-----	-----

Declarative and expressive sentences

A declarative sentence is a sentence that contains an enunciation that may be true or false; e.g., “Knowledge is useless.” The statement in this sentence is false because reality tells us otherwise. An expressive sentence is one that cannot be qualified as true or false. This includes sentence types such as imperative, prohibition, interjection, interrogation, wishing, exclamation, oath, praise, slander, etc.

Grade 1. The analysis of the first unit of *Kitaabii* and *Al Muftid* shows that 92% of the sentences in *Kitaabii* are expressive, as are 48% in *Al Muftid*. The difference between the two textbooks can be explained by the fact that Morocco’s textbook specifications did not include guidance on this point. **Exhibit 21**, below, provides a breakdown of expressive phrase types.

Exhibit 21: Breakdown by expressive phrase type in Grade 1 textbooks



Grade 2. Declarative-style sentences outnumber expressive-style ones in the second grade texts. The first unit of *Kitaabii* contains 39 declarative sentences and 32 expressive ones. The first unit of *Fii RiHaab* contains 41 declarative sentences and 23 expressive ones, and of *Murchidi*, 13 declarative and 11 expressive sentences.

Kitaabii contains four expressive styles out of six:

- Imperative: 2 examples, e.g., “Enter peacefully.” (page 6)
- Prohibition: 1 example, e.g., “Do not exhaust yourself.” (page 8)
- Exclamation: 3 examples, e.g., “How beautiful is his face!” (page 17)
- Interrogation: 26 examples, e.g., “What was the mother’s answer?” (page 17)

The book contained no wishing and interjection-style sentences, whereas the interrogative style is predominant.

Murchidi contained four styles out of six:

- Exclamation: 4 sentences, e.g., “What a wonderful night!” (page 10)
- Interrogation: 13 sentences, e.g., “When will the film start?”
- Imperative: 3 sentences, e.g., “Come and read.” (page 10)
- Calling: e.g., “May God bless you” (page 10)

The book did not contain examples of prohibition and wishing

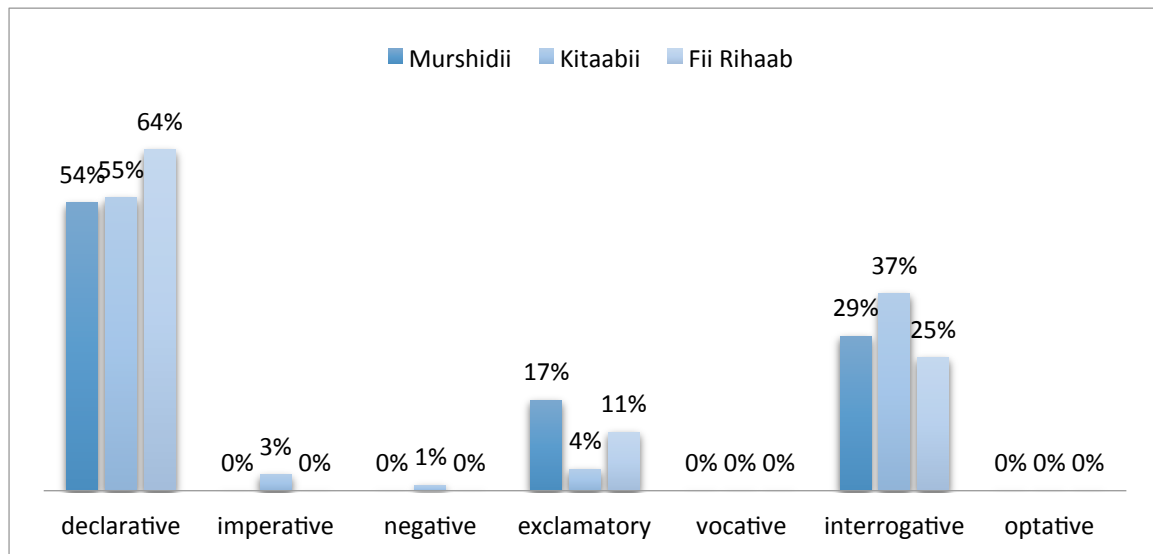
Fii RiHaab contained five styles out of six:

- Imperative: 3 sentences, e.g., “Come in, look.” (page 11)
- Exclamation: 1 sentence, e.g., “How beautiful it is!”
- Interjection: 8 sentences, e.g., “Hey, Zaynab” (page 5)

- Interrogation: 17 sentences, e.g., “What will be my role?” (page 18)

The book did not contain examples of prohibition and wishing. Therefore, the presence of styles was different. In addition, the abundance of interrogative sentences contradicts the idea of motivating pupils to raise questions themselves and discuss the text for the sake of understanding. *Exhibit 22* shows the breakdown by phrase type encountered in the Grade 2 texts.

Exhibit 22: Breakdown by expressive phrase type in Grade 2 textbooks



Grade 3. Finally, in Grade 3 the textbooks’ style is predominantly verbal and compound sentences of the expressive type, with the exception of *Al Muftid*, in which declarative sentences outnumber expressive ones. In the first unit of *Al Muftid* there are seven lessons. These contain 21 paragraphs with a total of 52 sentences; 15 of these sentences are nominal, and 37 are verbal. The first unit of *Murchidi* comprises seven lessons. These contain 14 paragraphs and 57 sentences, 26 of which are nominal and 31 are verbal. These findings suggest that pupils would face difficulty reading these texts. Verbal sentences can be difficult to understand, particularly because they require knowledge of conjugation and verb tenses as well as of the distinction between strong and weak verbs. What complicates things is the high number of compound sentences in the two books: 58, compared to only 24 simple sentences. In addition, in total, we found 102 declarative sentences and 98 expressive ones.

Use of punctuation

Punctuation can break up a complex sentence into component parts. Punctuation is also a marker of intonation, depending on the language (e.g., raising the voice at the end of an interrogative sentence; lowering it before a period), helping the reader develop prosody. Although Arabic contains criteria relative to sentence structure and punctuation, many of

the textbooks use a loose punctuation style that does not respect the predicative sentence structure of Arabic. This can make sentences longer and is probably one of the obstacles that pupils face in learning to read these texts. Although the textbook specifications urge publishers to use simple and clear sentences, many textbooks do not respect punctuation rules to the extent that the “comma” or “semi-colon” plays the role of the “full-stop.”

Textbook specifications must make reference to standards of punctuation use, and such specifications should become part of the evaluation process. During both development and evaluation of the textbooks, textbooks producers should ensure that punctuation is used to show places to pause, stop, and start as well as voice tones and speech purposes. These elements facilitate understanding during reading. The overuse of punctuation marks results in long sentences, and may constitute a challenge for learners. They may not remember the content of the beginning of the sentence when they are close to its end.

2.4 Reading comprehension

Strategies and objectives

Reading comprehension is the ultimate purpose of reading. If learners are able to read words but they do not understand them, it is as if they cannot read them at all. Reading comprehension means use of the highest processes of understanding and thinking during reading; comprehension involves removing ambiguity in a text through the assimilation of context or through the development of new meanings.

Developing reading comprehension skills comprises a set of strategies that are used during the teaching process, such as the strategy of prediction, self-monitoring, questioning, summarization, and more. Characteristics of pupils who can understand what is being read are as follows:

- They use a set of comprehension strategies to deepen and enrich their understanding.
- They are aware of the use of thinking processes and select the strategy to use during reading, especially when they encounter understanding difficulties.
- They are able to understand any subject if they apply the appropriate comprehension strategy.¹¹

Analysis of reading comprehension in the texts is based on focusing on the following:

- Including explicit objectives related to comprehension strategies
- Strategies of teaching reading comprehension
- The literary genre of the textbook’s texts

¹¹ Brown, D. H. (2001) *Teaching by principles: and interactive approach to language pedagogy*. Second edition. New York: Longman.

Overall, we see that Moroccan textbooks focus on direct understanding but do not make use of strategies or develop skills such as prediction, checking the guess, summarization, and others. The following sections present in more detail the different elements of the analysis.

The teacher's guide for *Kitaabii* in Grade 2 specifies that pupils should be able to build the meanings of sentences, grasp the content of texts, and know sentence structure through the relations among textual components, such as characters and setting. The present study found that the textbook contains a number of performance objectives for direct auditory and reading comprehension. For instance, *Kitaabii* targets grasping the general meaning of the text through listening, understanding, and expressing its content as well as identifying the setting of events and answering direct questions.

The textbook presents these skills in the form of exercises done by pupils or questions asked by the teacher. These skills are introduced to pupils in the form of tasks that they execute through the instructions of the teacher in order to grasp and remember the content of the text.

The strategies of teaching reading comprehension skills are limited to explanation and discussion; the teacher reads the questions and pupils discuss by giving answers and make a distinction between choices in case of choosing between multiple response questions. The teacher then asks pupils to write the answers down. It is worth noting that these types of exercises (reading multiple choice questions and writing down the answers) are included here before all of the letters of the alphabet have been introduced.

In the Grade 1 version, each of the eight units of *Kitaabii* presents 5 listening texts, 10 reading texts, and 1 poem. The listening texts are dominated by a large number of words and many long sentences. *Al Mufiid* presents short sentences that comprise words with the target letter.

For Grades 2 and 3, every lesson includes a reading text in the form of a story or poem.

Monitoring comprehension

Assessment is a basic component in methodological skill-building in all linguistic activities that aim to teach children how to read in Arabic. Building reading skills is done through stages, each of which is based on the previous one; assessment is the mechanism used to detect learning difficulties and acts as a corrective measure for all the components of the teaching-learning process to help move learners from one stage to the next.

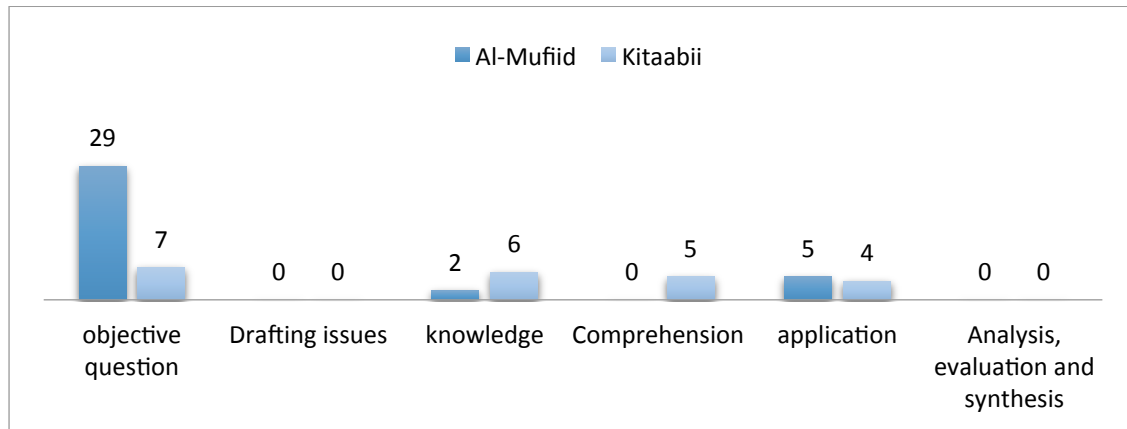
In this study, assessment means that all the activities presented in the textbook seek to monitor the progress of pupils and their knowledge, acquisition of learning objectives, and reading ability development on a regular basis. Research shows that effective teachers ask higher-level questions that go beyond information recall or literal

understanding, as well as using different types of questioning involving different levels of comprehension.¹²

Grade 1. Our analysis focused on comprehensive assessment by classifying the subject areas evaluated in the manuals by type according to Bloom’s taxonomy (**Exhibit 23**). We also tried to observe the content and competences targeted by each textbook’s assessment.

The analysis reveals that the most-used questions in the first year editions of the textbooks are objective questions (60% in *Al Mufiid* and 27% in *Kitaabii*). Because pupils at this level have little linguistic background, they would find it difficult to produce essay answers (declarative or expressive).

Exhibit 23: Levels of comprehension, Grade 1



The two textbooks focus on the lower levels of understanding (recall,, understanding, applying). The first unit did not contain any question to assess the higher abilities (analysis, evaluation/comprehension, synthesis) (**Exhibit 24**).

What is worth mentioning is the weak assessment of both listening and speaking skills. The activities used to evaluate reading competency also concern writing, yet they remain limited (16% in *Kitaabii*). Our analysis did not detect any activity to assess reading in *Al mufiid*.

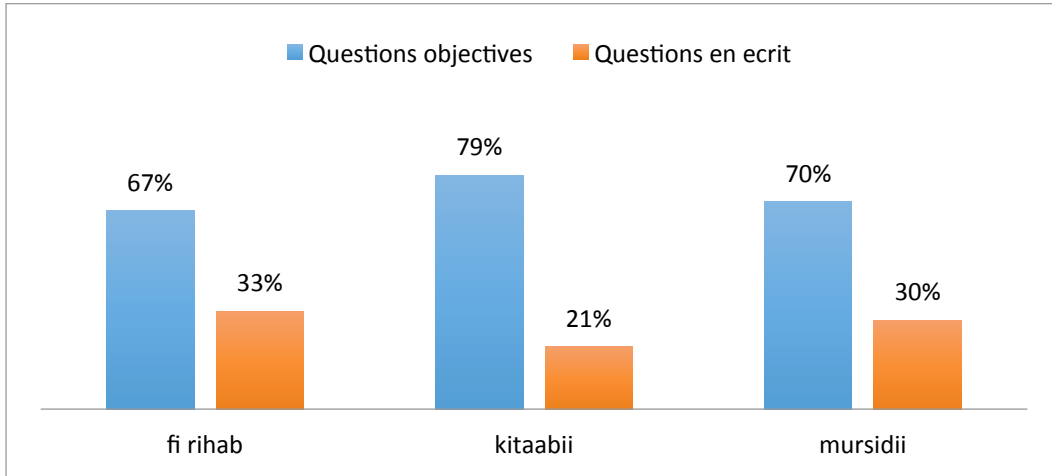
Second level. In second year, we note the following:

- Near absence of evaluation of listening and speaking skills and literary fluency in reading aloud
- Lack of evaluation of assimilation skills, particularly those that require a linguistic and intellectual effort, such as the higher levels of deduction, analysis, synthesis, and understanding

¹² Day, R. and Park, J. (2005). Developing reading comprehension questions. *Reading in a foreign language*, 17(1). <http://nflrc.hawaii.edu/rfl/April2005/day/day.pdf>

- Predominance of objective questions

Exhibit 24: Types of comprehension questions



The first unit of the two textbooks *Al Muftid* and *Murchidi* show the results in **Exhibit 25**.

Exhibit 25: Question types by textbook, Grade 3

Objectives of question types	Al Muftid	Murchidi	Total
Remember	7	6	13
Understand	1	20	21
Apply	14	8	22
Analysis/Synthesis/Evaluation	6	6	12

Exhibit 25 shows that *Al Muftid* contained 22 comprehension questions related to the lower levels, and 6 questions related to the higher levels (analysis/synthesis/evaluation). *Murchidi* contained 34 comprehension questions related to the lower levels, and 6 questions related to the higher levels.

The objectives are general and expressed in constructive sentences, as is the case for *Murchidi* (Grade 3). The preamble of the first unit reads: “In this unit I will:

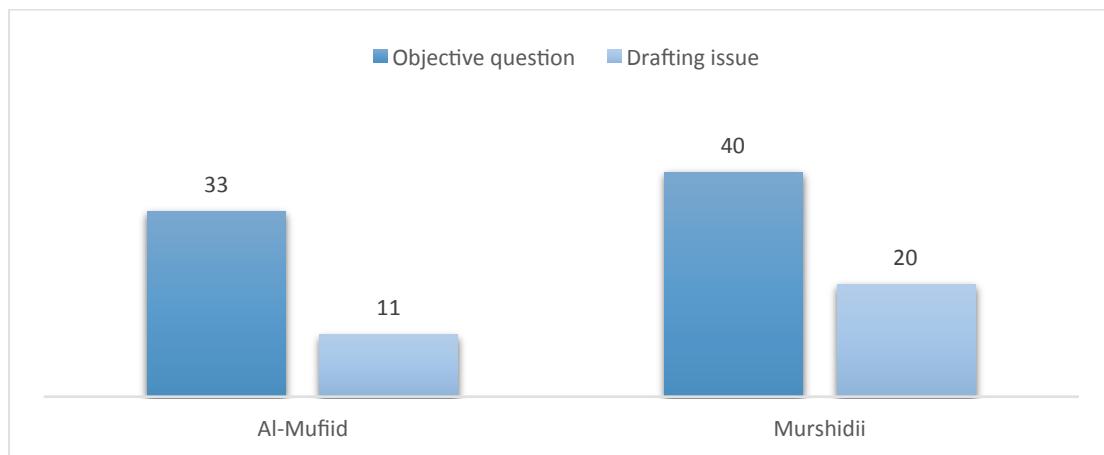
- Be able to read poems and prose texts in a correct and expressive way;
- Identify the vocabulary and understand their meaning;
- Acquire vocabulary related to certain values.”

The same objectives are noted in *Al Muftid* and point to Islamic values: identification, concentration, ability, writing, and cooperation.

However, the practice exercises do not have a clear strategy to achieve the given objectives. This reflects a gap between the fixed objectives and the type of the suggested activities. Accordingly, assessment remains limited to the lower levels of the Bloom’s classification (remember, understand, apply) and does not reach the levels of thinking and criticizing (analysis, synthesis, evaluation). The questions in *Al Mufiid* are based on memorization and understanding using question words (why, what, etc.).

The fixed objectives, in addition to being general, are unobservable and immeasurable. The suggested objectives for *Al Mufiid*: “I read, I understand, I analyze, I discuss, I search,” and for *Murchidi*: “I think, I answer, I search,” are abstract and not specified by behavioral and procedural actions. These suggested activities are unobservable and immeasurable. Reading comprehension assessment is dominated by objective questions compared to essay (drafting) questions. Accordingly, these objectives are based on knowledge that requires recalling and remembering, and comprehension questions do not reach the higher levels of cognition (See *Exhibit 26*).

Exhibit 26: Types of comprehension questions, Grade 3



There are 56 total questions related to the lower levels (remembering, understanding, applying), and 6 questions related to the levels of thinking and criticizing (analysis, composition, assessment). The same is applicable to activities that deal with linguistic competences that are considered as information being stored and recalled after the direct question, whereas the other fields of competence and emotion remained weak. Written production that reflects pupils’ feelings (love, dislike, positions, attitudes, etc.) but lacks development.

**-- This is the end of Part A. To limit download size the report has been split in two parts.
Please refer to Part B for the remainder of the analysis and conclusions ---**

Annex 1: Frequency analysis of Arabic language

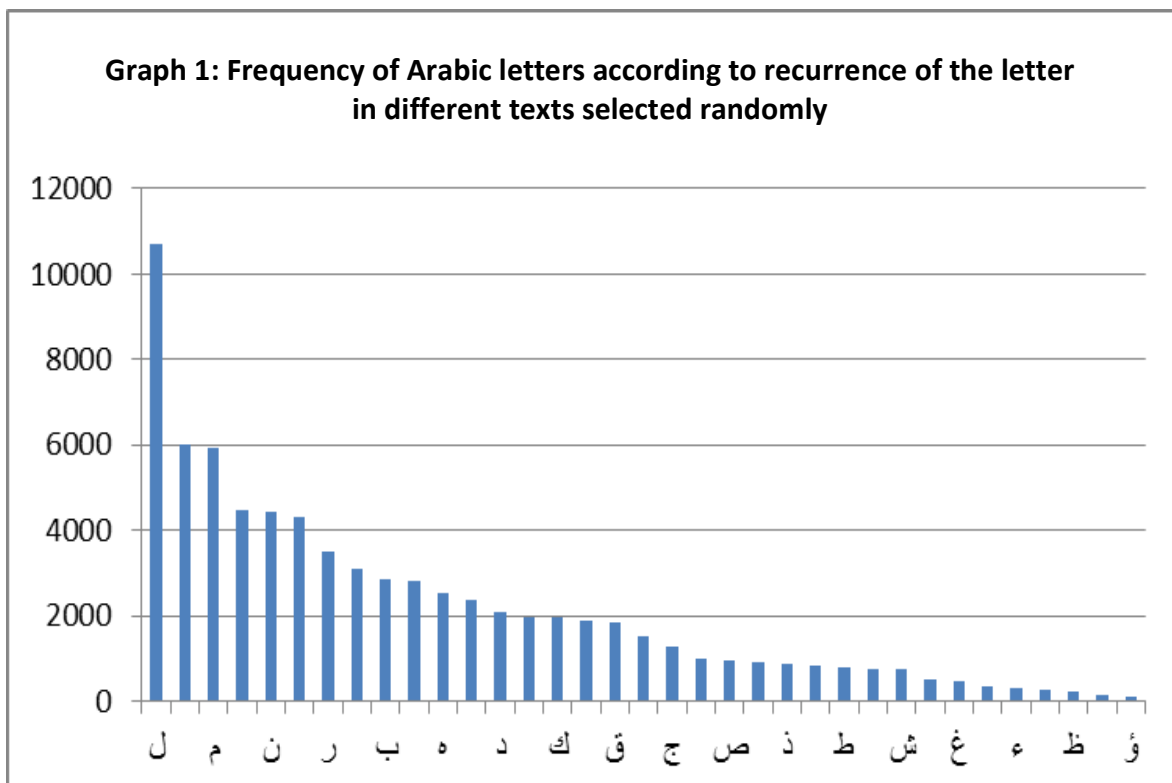
A study of Arabic language by intellarem.com presented the frequency of letters arranged in a descending order according to the letter's frequency of use in the Holy Qur'an, as is shown in the following table:

Order	Letter	Frequency	%		Order	Letter	Frequency	%
1	ا	43,542	13.17		19	ذ	4,932	1.49
2	ل	38,191	11.55		20	ح	4,140	1.25
3	ن	27,270	8.25		21	ج	3,317	1.00
4	م	26,735	8.08		22	ى	2,592	0.78
5	و	24,813	7.50		23	خ	2,497	0.76
6	ي	21,973	6.64		24	ة	2,344	0.71
7	ه	14,850	4.49		25	ش	2,124	0.64
8	ر	12,403	3.75		26	ص	2,072	0.63
9	ب	11,491	3.47		27	ض	1,686	0.51
10	ت	10,520	3.18		28	ز	1,599	0.48
11	ك	10,497	3.17		29	ء	1,578	0.48
12	ع	9,405	2.84		30	آ	1,511	0.46
13	أ	9,119	2.76		31	ث	1,414	0.43
14	ف	8,747	2.64		32	ط	1,273	0.38
15	ق	7,034	2.13		33	غ	1,221	0.37
16	س	6,012	1.82		34	ئ	1,182	0.36
17	د	5,991	1.81		35	ظ	853	0.26

Order	Letter	Frequency	%		Order	Letter	Frequency	%
18	!	5,108	1.54		36	ؤ	673	0.20

This study concludes that the frequency order in the text of the Qur'an is as follows: Alif, Lam, Noon, Mim, Waw, Yaâ, Haâ, Raâ, Baâ, Taâ, Kaf, Ayn, etc. However, and regardless of the nature of the text, this study will not be considered complete without including statistics about the frequency of letters from sources other than the Holy Qur'an.

During work on the project of analyzing the curriculum and the textbook, a tool for electronically counting the frequency of letters was developed to count the letters in the textbooks of the first three years of primary education in Morocco. This tool was also applied to a number of texts randomly taken from outside the curriculum for the purpose of comparison. The study showed the following order for letter frequency:



The descending order of frequency of letters in different texts randomly selected.

1. ا	7. و	13. ف	19. ح	25. خ
2. ل	8. ر	14. د	20. ج	26. ط
3. ي	9. ع	15. أ	21. ض	27. ى
4. م	10. ب	16. ك	22. ص	28. ش
5. ت	11. ة	17. س	23. إ	29. ث
6. ن	12. هـ	18. ق	24. ذ	